TOXIC WATERS: HOW REGIONAL BUSINESSES CAN RESPOND TO THE ALGAL BLOOM CRISIS IN THE GREAT LAKES

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I. INTRODUCTION

Many businesses rely on the health of the environment to sell goods and services to their customers. Coastal resorts need pristine beaches for their patrons; golf courses need manicured lawns and beautiful surroundings to increase their customers' pleasure; fisheries need ecologically healthy aquatic environments to support fish; and hunting lodges require fertile lands to support the wild game their customers will hunt. When the environment that a business relies on starts to degrade, they can see their profits endangered. Businesses along the Great Lakes are facing such a danger from harmful algal blooms. This Note seeks to provide suggestions on why algal blooms have become such a danger to Great Lakes businesses' commercial interests and what possible legal remedies are available to these businesses that are at risk of seeing their profits reduced or eliminated. This Note's inquiry is novel for studying the possible legal remedies available to Great Lakes businesses threatened by harmful algal blooms.

The Great Lakes are collectively the largest source of fresh water on Earth and also one of the most important sources of economic wealth in the United States.[1] The Great Lakes region "account[s] for 33% of the nation's population, 32% of its GDP, 30% of its merchandise exports, and 28% of its patents, even in the face of a significant re-ordering of the world's economy."[2] For Lake Erie alone, tourism generates $10.7 billion annually.[3] "Regional tourism also supports more than 100,000 northern Ohio jobs and generates $750 million in state and local taxes."[4]

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[1] ANN ARBOR CHAMBER OF COMMERCE ET AL., AN AGENDA FOR JOBS AND ECONOMIC TRANSFORMATION IN THE GREAT LAKES REGION 2 (2013).

[2] *Id.* at 3.

[3] GREAT LAKES COMM'N, GREAT LAKES RESTORATION AT WORK IN OHIO 1 (2013).

[4] *Id.*

Number of Jobs Related to the Great Lakes by State[5]

STATE	GREAT LAKES JOBS
Minnesota	11,877
Wisconsin	173,969
Illinois	380,786
Indiana	54,397
Michigan	525,886
Ohio	178,621
Pennsylvania	25,479
New York	157,547
Total	**1.51 Million**

Number of Jobs Related to the Great Lakes by Industry[6]

INDUSTRY	GREAT LAKES JOBS
Manufacturing	994,879
Tourism and Recreation	217,635
Shipping	118,550
Agriculture	118,430
Science and Engineering	38,085
Utilities	10,980
Mining	10,003
Total	**1.51 Million**

One thing that has gotten the attention of policy makers in the last few years has been the algal bloom crisis affecting much of the Great Lakes. Lake Erie had its worst year for algal blooms in 2011,[7] and it has not abated much since then. Algal blooms are no stranger to coastlines of the

[5] LYNN VACCARO & JENNIFER READ, VITAL TO OUR NATION'S ECONOMY: GREAT LAKES JOBS 3 tbl.1 (2011).
[6] *Id.*
[7] INT'L JOINT COMM'N, LAKE ERIE ECOSYSTEM PRIORITY: DRAFT SUMMARY REPORT ii (2013).

Great Lakes, but the problem has become more pronounced in recent years due to a variety of factors. Harmful algal blooms (HAB or HABs) are known to cause a variety of problems, including: "human illness and mortality following consumption of or indirect exposure to HAB toxins, substantial economic losses to coastal communities and commercial fisheries, and HAB-associated fish, bird and mammal mortalities."[8]

The economic losses posed by HABs can potentially be very steep. The National Oceanic and Atmospheric Administration (NOAA) estimated that HABs caused $38 million a year in losses to commercial fisheries; $37 million a year in public health costs; $4 million a year in lost recreation and tourism spending; and $3 million worth of expenses in financing coastal monitoring and management.[9]

Another nationwide estimate of the average annual costs of HABs is approximately $50 million.[10] Public health was the largest component at roughly $20 million annually.[11] Commercial fisheries suffered an average of $18 million annually.[12] Recreation and tourism were adversely affected by at least $7 million, and monitoring and management had $2 million in costs.[13]

Given these negative consequences for an important economic engine like the Great Lakes, academics, environmentalists and politicians are looking for ways to stem the consequences of algal blooms. This Note analyzes what possible legal measures are available to Great Lakes businesses in response to the economic danger posed by HABs. Part II gives a brief summary of the science and causes behind HABs. Furthermore, Part II provides a description of the broad economic impact that HABs have on coastal economies. Part II then describes the international and national government institutions involved in managing the Great Lakes' ecological health. Part III describes two possible non-exclusive solutions available to Great Lakes businesses: private rights of action under the Clean Water Act and lobbying government leaders to implement sensible environmental standards. This Note proposes that while litigation is suitable in some circumstances, the best long-term solution to the HABs crisis is lobbying by Great Lakes businesses.

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[8] *Harmful Algae*, WOODS HOLE OCEANOGRAPHIC INST., http://www.whoi.edu/redtide/home (last updated May 15, 2013).
[9] NAT'L CTRS. FOR COASTAL OCEAN SCIENCE, NAT'L OCEANIC & ATMOSPHERIC ADMIN., ECONOMIC IMPACTS OF HARMFUL ALGAL BLOOMS (2012).
[10] *Economic Impacts*, WOODS HOLE OCEANOGRAPHIC INST., http://www.whoi.edu/redtide/page.do?pid=15315 (last updated July 31, 2012).
[11] *Id.*
[12] *Id.*
[13] *Id.*

II. BACKGROUND

A. *What HABs Are and Why They Are Bad for Great Lakes Businesses*

"Algae are photosynthetic organisms that occur in most habitats,"[14] including fresh water environments like the Great Lakes.[15] Algae are important to aquatic ecosystems and often form the base of the food chain.[16] Furthermore, algae produce oxygen that is necessary for the survival of other aquatic organisms.[17] Therefore, it is important that some minimal level of algae be present to protect the ecological health of the Great Lakes.

Algae can become dangerous to aquatic organisms; if algae become too numerous, they can create algal blooms.[18] Blue-green algae, the most common kind of algae in the Great Lakes, produce toxins that in large amounts kill aquatic species that come into contact with it.[19] Ingestion of blue-green algae by humans also causes very harmful physical symptoms.[20] Physical symptoms include "muscle cramps, twitching, paralysis, and cardiac or respiratory failure . . . nausea, vomiting, and acute liver failure . . . skin irritation, rashes, and gastrointestinal distress."[21] Therefore, HABs can have a severe impact on the health of aquatic species and humans who make contact with them.

Beyond the toxic effects, another danger posed by HABs occurs after algae die. When algae die, the decomposition process consumes oxygen in the water—oxygen that would otherwise be consumed by aquatic species.[22] "Depletion of oxygen through decomposition of organic material is known as biochemical oxygen demand (BOD)."[23] "As the BOD load

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[14] *Algae Research: Introduction*, SMITHSONIAN NAT'L MUSEUM OF NAT. HIST., http://botany.si.edu/projects/algae/introduction.htm (last visited Apr. 15, 2014).
[15] NAT'L OCEANIC & ATMOSPHERIC ADMIN., HARMFUL ALGAL BLOOMS IN THE GREAT LAKES, http://www.glerl.noaa.gov/pubs/brochures/bluegreenalgae_factsheet.pdf (last visited Apr. 17, 2014).
[16] *Algae Research: Introduction*, *supra* note 14.
[17] *Id.*
[18] NAT'L OCEANIC & ATMOSPHERIC ADMIN., *supra* note 15.
[19] *Id.*
[20] *Id.*
[21] *Id.*
[22] *See Algal Bloom*, SCIENCEDAILY, http://www.sciencedaily.com/articles/a/algal_bloom.htm (last visited Apr. 17, 2014).
[23] PHOSPHORUS REDUCTION TASK FORCE, PRIORITIES FOR REDUCING PHOSPHORUS LOADINGS AND ABATING ALGAL BLOOMS IN THE GREAT LAKES – ST. LAWRENCE RIVER BASIN: OPPORTUNITIES AND CHALLENGES FOR IMPROVING GREAT LAKES AQUATIC ECOSYSTEMS 2 (2012).

increases and oxygen levels drop, certain species of fish can be killed."[24] This condition of zero or very low oxygen levels is known as hypoxia.[25]

The Lake Erie Central Dead Zone is a major example of the kind of effects large HABs can cause in an aquatic ecosystem.[26] The central basin is located from about Huron, Ohio to Erie, Pennsylvania.[27] The Dead Zone's bottom layer is a layer of cold water cut off from the air.[28] Consequently, most aquatic species die as a result of the decreased oxygen levels, and other species move in.[29]

B. *What Causes HABs?*

There are many causes of HABs. Sewage drainage, agricultural runoff and warming temperatures are linked to HABs.[30] Excessive nutrient loadings primarily cause HABs as a result of human activities.[31] In the past, nutrients entered the Great Lakes from "two main sources: human waste discharge and agriculture runoff."[32] Phosphorus is the principal ingredient causing the HABs.[33] Much of the phosphorus that makes its way into the Great Lakes comes from agricultural runoff containing phosphorus based fertilizers.[34] Phosphorus-based fertilizers come in three major types: commercial phosphorus fertilizers; biosolid fertilizers; and manure-based phosphorus fertilizers.[35]

Plants use phosphorus "to produce a strong root system, increase the growth rate and promote flower development."[36] Phosphorus occurs naturally and comes in two types: particulate phosphorus[37] (i.e., phosphorus that is attached or absorbed to soil particles or other matter) and dissolved or soluble reactive phosphorus.[38] Of the two types of phosphorus, dissolved

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[24] *Id.*
[25] INT'L JOINT COMM'N, *supra* note 7, at vii.
[26] *Great Lakes: Lakewide Management Plans*, EPA, http://www.epa.gov/greatlakes/lakeerie/eriedeadzone.html (last updated July 2, 2012).
[27] *Id.*
[28] *Id.*
[29] PHOSPHORUS REDUCTION TASK FORCE, *supra* note 23, at 2.
[30] *See generally id.*
[31] *Id.* at 1.
[32] *Id.*
[33] *See Algal Bloom*, *supra* note 22.
[34] *See generally id.*
[35] OHIO ENVTL. PROT. AGENCY, OHIO LAKE ERIE PHOSPHORUS TASK FORCE FINAL REPORT 37 (2010).
[36] PHOSPHORUS REDUCTION TASK FORCE, *supra* note 23, at 2.
[37] NAT'L CTR. FOR WATER QUALITY RESEARCH, HEIDELBERG UNIV., DISSOLVED PHOSPHORUS FROM CROPLAND RUNOFF: WHY IT IS A BIG PROBLEM! (2011), (describing particulate phosphorus as "[p]hosphorus that remains on the filter with the particulate matter").
[38] *Id.* (describing dissolved phosphorus as "the phosphorus that remains in water after that water has been filtered to remove particulate matter").

phosphorus causes the principal problem because of its special characteristics compared to particulate phosphorus.[39] Dissolved phosphorus is roughly three times more capable of supporting algal growth than particulate phosphorus, which makes it a much bigger problem.[40]

C. *The Effects HABs Have on Local Businesses*

Many different industries heavily rely on the Great Lakes being ecologically healthy. Manufacturing, tourism and recreation, utilities, public health institutions, drinking water and real estate industries rely on the vitality of the Great Lakes.[41] HABs threaten to cause millions of dollars in aggregate damage to these industries.[42]

In an exhaustive study of the economic costs associated with HABs, researchers found support for the general consensus that HABs have the potential to cost coastal communities tens of millions of dollars.[43] The study found that HABs were associated with an increased cost of public health expenditures.[44] Between 1987 and 1992, HABs caused between $18 million and $25 million per year in increased public health expenditures.[45] This averages out to roughly $22 million annually.[46]

Commercial fishing also took a toll from HABs.[47] Using conservative estimates, the study found that between $13 million and $25 million were lost due to HABs negatively affecting commercial fishing businesses.[48] Considering that the Great Lakes fishing industry is such a

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[39] *Id.*

> Dissolved P is a special problem because (1) it is highly "bioavailable" to algae, i.e. it supports rapid algal growth and reproduction, (2) the amounts or loads of dissolved P entering Lake Erie have been increasing dramatically in recent years, and (3) dissolved P remains in the water while particulate P settles to stream and lake bottoms where it may no longer be available to algae.

Id.

[40] *Id.* ("About 95% of dissolved P is bioavailable to algae while only about 30% of the particulate P attached to eroded sediment is bioavailable.").

[41] VACCARO & READ, *supra* note 5.

[42] *See* DONALD M. ANDERSON ET AL., WOODS HOLE OCEANOGRAPHIC INST., ESTIMATED ANNUAL ECONOMIC IMPACTS FROM HARMFUL ALGAL BLOOMS (HABS) IN THE UNITED STATES 52 (2000).

[43] *Id.*

[44] *Id.* at 5.

[45] *Id.*

[46] *Id.*

[47] *Id.*

[48] *Id.*

major source of income, the threat posed by HABs could become depressing on the regional economy.[49]

The effect that HABs have on recreation and tourism was hard to measure because of a lack of data, according to the previously mentioned study.[50] However, using case studies from numerous states, the study conservatively estimated that the maximum damage caused by HABs to the tourism industry was approximately $29 million.[51] The study also concluded that the real estate industry likely suffered annual economic loss due to HABs, but that no data set existed to track this kind of data.[52] The chart below shows the low to high estimates of the economic damage that HABs have caused.

Estimated Annual Economic Impacts from Harmful Algal Blooms (HABs) in the United States (Estimate is of 1987–1992 period, reported in 2000 dollars)[53]

	Low	High	Average	Total
Public Health	$18,493,825	$ 24,912,544	$ 22,202,597	45%
Commercial Fishery	$13,400,691	$ 25,265,896	$ 18,407,948	37%
Recreation/Tourism $	-	$29,304,357	$6,630,415	13%
Monitoring/Management	$ 2,029,955	$ 2,124,307	$ 2,088,885	4%
TOTAL	$33,924,471	$81,607,104	$49,329,845	100%
15 Year Capitalized Impacts (discounted at 7%)	$308,981,162	$743,270,485	$449,291,987	

Case studies have shown that HABs have caused other coastal economies millions of dollars in damage.[54] One case of HABs causing large economic damage occurred in Grand Lake St. Marys (GLSM).[55] "GLSM is Ohio's largest inland lake" at roughly twenty-one square miles, and it is the main source of drinking water for the residents living in and around the town of Celina, Ohio.[56] Furthermore, GLSM provided an estimated $240 million in annual revenue for Celina and surrounding communities from

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[49] *See The Great Lakes and Fishing*, MICH. CHARTER BOAT ASS'N, http://www.michigancharterboats.com/greatlakes.html (last visited April 12, 2014) ("Great Lakes fisheries are valued at more than $4 billion annually.").
[50] ANDERSON ET AL., *supra* note 38, at 6 ("Although many experts argue that the impacts of HABs on recreation and tourism are important and potentially large, there are few available data describing the size of the impacts.").
[51] *Id.* at 6.
[52] *Id.* at 54.
[53] *Id.* at 52 tbl.7.1.
[54] *See, e.g.*, Tom Davenport & Wendy Drake, *Grand Lake St. Marys, Ohio – The Case for Source Water Protection: Nutrients and Algae Blooms*, LAKELINE MAG., Fall 2011, at 42–45.
[55] *Id.* at 42
[56] *Id.*

fishing, boating and swimming.[57] In 2010, GLSM was measured to have four times the level of microcystis than the level that is safe for human consumption, resulting in GLSM being closed.[58] In 2010, the closure of GLSM decreased annual revenue in the region by roughly forty percent[59] or $60 million.[60] It was later found that runoff from phosphorus-based fertilizers was the biggest causes of the HABs in GLSM.[61]

In another case occurring between 2002 and 2003, HABs disrupted the local clam fishing market in the Pacific Northwest for a whole year.[62] The algae in that case caused normally edible clams, oysters and Dungeness crabs to become poisonous to human consumption, resulting in an annual loss of between $10 million and $12 million (or roughly fourteen to seventeen percent of the typical annual revenue).[63] The oyster, Dungeness crab and razor clam fisheries in Washington are valued at roughly $72 million a year for the local economies, and are important for "commerce, [and] recreation."[64]

In New England in 2005, HABs caused major disruptions to the shellfish industry.[65] Many shellfish were infected and made poisonous by a condition known as paralytic shellfish poisoning (PSP).[66] HABs caused an estimated $23 million in potential shellfish losses in 2005 alone.[67] Tens of millions of dollars of potential shellfish continue to be lost annually by local fisheries.[68] These costs also do not take account of indirect costs associated with "business[es] linked to the shellfish industry" in New England.[69]

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[57] JOE LOGAN, GREAT LAKES LEGISLATIVE CAUCUS, NUTRIENT LOADING IN OHIO: SERIOUS CHALLENGES FOR CRITICAL NATURAL RESOURCES 14 (2013).
[58] Davenport & Drake, *supra* note 54, at 43. The World Health Organization specifies less than 20 parts per billion is the threshold of microcystis that is safe for human contact; GLSM had "four times" that level of microcystis. *Id.* Microcystis is the technical name for blue-green algae. For a more precise definition, see OFF. OF ENVTL. HEALTH HAZARD ASSESSMENT, STATE OF CAL., MICROCYSTIS: TOXIC BLUE-GREEN ALGAE (2008) ("*Microcystis aeruginosa* is a single-celled blue green alga, or cyanobacterium, that occurs naturally in surface waters.").
[59] *See* Press Release, Off. of the Governor, State of Ohio, SBA Approves Governor's Request for Assistance for Grand Lake St. Marys Businesses (Oct. 20, 2010).
[60] *See* Davenport & Drake, *supra* note 54, at 43 (listing $150 million as the pre-closure amount of "annual economic activity").
[61] *Id.* ("Nutrient loadings from tributaries, (particularly phosphorus) are exerting the most negative impact on the lake. Phosphorus levels during runoff events were then (and still are) among the consistently highest levels in the state.").
[62] NAT'L CTRS. FOR COASTAL OCEAN SCI., *supra* note 9.
[63] *Id.*
[64] *Id.*
[65] *Id.*
[66] *Id.*
[67] *Id.*
[68] *Id.* (describing the continued closure of certain fisheries in the area).
[69] *Id.*

HAB outbreaks on Florida's west coast annually cost tens of millions of dollars in lost revenue.[70] The HABs in this case "kill fish, [and] birds" and "are a threat to human health."[71] Between $19 million and $32 million dollars in annual damage to Florida's economy is caused by these HABs.[72] Furthermore, a severe outbreak in the early 1970s caused roughly $20 million in economic loss ($100 million in 2007 dollars), mostly to the tourism industry.[73]

D. *Management of the Great Lakes Is Divided Between International, National and State Authorities*

1. *International Organizations Play an Important, Albeit, Purely Supportive Role in Managing the Great Lakes*

The Great Lakes Commission (Commission) is an international organization composed of eight states and two Canadian provinces (Ottawa and Quebec).[74] The Great Lakes Compact Treaty (the Compact) created the Commission to facilitate cooperation and communication between various American states and Canadian provinces.[75] The Compact lists the goals of the Commission in Article I of the Compact.[76] Specifically, the Compact states the goals of the Commission as:

> 1. To promote the orderly, integrated, and comprehensive development, use, and conservation of the water sources of the Great Lakes Basin (hereinafter called the Basin).
> 2. To plan for the welfare and development of the water resources of the Basin as a whole as well as for those portions of the Basin which may have problems of special concern.
> 3. To make it possible for the states of the Basin and their people to derive the maximum benefit from utilization of public works, in the form of navigational aids or otherwise, which may exist or which may be constructed from time to time.
> 4. To advise in securing and maintaining a proper balance among industrial, commercial, agricultural, water supply, residential, recreational, and other legitimate uses of the water resources of the Basin.

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[70] *Id.*
[71] *Id.*
[72] *Id.*
[73] *Id.*
[74] Great Lakes Basin Compact art. II, U.S.-Can., July 24, 1968, 82 Stat. 414.
[75] *Id.* at art. I(5).
[76] *See generally id.* at art. I.

> 5. To establish and maintain an intergovernmental agency to the end that the purposes of this compact may be accomplished more effectively.[77]

However, the Commission suffers from a lack of authority to implement any binding policy meant to preserve the Great Lakes.[78] In Article VI of the Compact, the powers of the Commission are limited to conducting and synthesizing research, making recommendations on changes to laws and policies of member states and communicating between concerned agencies.[79] Because of the limited nature of its ability to implement binding policies, the Commission's role is strictly an advisory one in the management of the Great Lakes.[80] According to the Compact, the Commission has the power to:

> (A.) Collect, correlate, interpret, and report on data relating to the water resources and the use thereof in the Basin or any portion thereof[;] (B.) [r]ecommend methods for the orderly, efficient, and balanced development, use and conservation of the water resources of the Basin or any portion thereof to the party states and to any other governments or agencies having interests in or jurisdiction over the Basin or any portion thereof[;] . . . [and] (F.) [r]ecommend policies relating to water resources including the institution and alteration of flood plain and other zoning laws, ordinances and regulations.[81]

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[77] *Id.*
[78] *See generally id.* at art. VI(K)–(M).
[79] *See generally id.* at art. VI.
[80] Act Granting the Consent of Congress to a Great Lakes Basin Compact, and for Other Purposes, Pub. L. No. 90-419, § 2, 82 Stat. 414, 419 (1968).
[81] Great Lakes Basin Compact art. VI(A), (B), (F), U.S.-Can., July 24, 1968, 82 Stat. 414. Other powers include the abilities to:

> C. Consider the need for and desirability of public works and improvements relating to the water resources[;] . . . H. Consider and recommend amendments or agreements supplementary to this compact to the party states or any of them, and assist in the formulation and drafting of such amendments or supplementary agreements[;] I. Prepare and publish reports, bulletins, and publications appropriate to this work and fix reasonable sale prices therefore[;] J. With respect to the water resources of the Basin or any portion thereof, recommend agreements between the governments of the United States and Canada[;] . . . [and] N. Make any recommendation and do all things necessary and proper to carry out the powers conferred upon the Commission by this compact, provided that no action of the Commission shall have the force of law in, or be binding upon, any party state.

Id. at art. VI (C), (H)–(J) & (N).

These powers demonstrate why the Commission is not able to manage the algal bloom crisis. The Commission's role is purely supportive and has no enforcement powers to bind member states and provinces to more stringent phosphorus pollution standards.[82] Therefore, national governmental institutions bear the responsibility in creating and implementing environmental policies that can fight HABs.

2. *The Federal Environmental Protection Agency Is a Major Actor in Implementing Policies Designed to Maintain and Improve the Great Lakes' Ecology*

The United States Congress established the EPA "on December 2, 1970 to consolidate in one agency a variety of federal research, monitoring, standard-setting and enforcement activities to ensure environmental protection."[83] Congress created the EPA in the wake of various environmental disasters in the 1960s and 1970s, such as "oil spills, lake fires" and concerns about toxic chemicals.[84] The EPA implements various programs to revitalize the Great Lakes and fight against HABs.[85]

Unlike the Great Lakes Commission, the EPA has the authority to issue, implement and revise environmental policies needed to successfully complete the goals set by Congress.[86] Specifically, the EPA is empowered to: 1) establish and enforce environmental protection standards; 2) conduct research on the effects of pollution and on the methods and equipment for controlling it; 3) assist others through grants and technical assistance to fight against pollution; and 4) advise the President and develop new policies.[87]

In comparison to state authorities, the EPA has jurisdiction over particular environmental issues with the whole of the United States.[88] This makes it well suited to dealing with phosphorus loading into the Great Lakes because many separate states and Canadian provinces contribute to phosphorus loading into the Great Lakes.[89] Given the number of political subdivisions that contribute phosphorus into the Great Lakes and the

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[82] *See generally id.* at art. VI.
[83] Final Rule, 50 Fed. Reg. 26,721-01 § 1.3 (1985); *EPA History*, EPA, http://www2.epa.gov/aboutepa/epa-history (last updated Mar. 12, 2014).
[84] Erin L. Gordon, *History of the Modern Environmental Movement in America*, AM. CENTER BULL., June 2012, at 1.
[85] *See generally* Great Lakes Legacy Reauthorization Act of 2008, Pub. L. No. 110-365, 122 Stat. 4021; GREAT LAKES RESTORATION INITIATIVE, http://greatlakesrestoration.us/index.html (last visited Apr. 15, 2014).
[86] *See generally Our Mission and What We Do*, EPA (Mar. 16, 2014) http://www2.epa.gov/aboutepa/our-mission-and-what-we-do.
[87] Reorganization Plan No. 3 of 1970, 35 Fed. Reg. 15,623 (1970), *reprinted as amended in* 97 Stat. 485, 486 (1983).
[88] *See generally Our Mission and What We Do*, *supra* note 81.
[89] PHOSPHORUS REDUCTION TASK FORCE, *supra* note 23, at 23.

sweeping jurisdiction of the agency, the EPA is probably the most effective institutional actor for managing the HAB crisis in the Great Lakes.

III. POSSIBLE SOLUTIONS TO THE ALGAL BLOOM CRISIS FOR LOCAL BUSINESSES

A. *History of the Clean Water Act*

The Federal Water Pollution Control Act of 1948 (FWPCA) was the first federal attempt at creating a comprehensive framework by which the federal government could work with state governments to improve the ecological health of the nation's water supply.[90] The FWPCA provided states with technical expertise and funding to combat locally identified water pollution problems.[91] However, the FWPCA did not create federal standards for water quality, instead leaving the creation of water quality standards to be set by state governments.[92]

The law proved to be ineffective at improving the nation's water quality. Given the patchwork of different water quality standards, different levels of willingness by state officials to pursue enforcement and the increase in environmental awareness in the 1960s and 1970s, Congress enacted the 1972 amendment that became known as the Clean Water Act (the Act or CWA).[93] The CWA is, however, just one of many legislative attempts at reining in pollution in the nation's waterways.[94] As the table below shows, attempts at improving the environmental health of the nation's waterways included six separate pieces of legislation before Congress enacted the Clean Water Act of 1972.[95]

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[90] CLAUDIA COPELAND, CONGR. RESEARCH SERV., CLEAN WATER ACT: A SUMMARY OF THE LAW 2 (2010).
[91] *Id.*
[92] *Id.*
[93] *Id.*
[94] *Id.* at 1 tbl.1.
[95] *Id.*

Federal Water Pollution Control Act and Related Amendments 1948–1987[96]

Year	Act	Public Law
1948	Federal Water Pollution Control Act	P.L. 80-845 (Act of June 30, 1948)
1956	Water Pollution Control Act of 1956	P.L. 84-660 (Act of July 9, 1956)
1961	Federal Water Pollution Control Act Amendments	P.L. 87-88
1965	Water Quality Act of 1965	P.L. 89-234
1966	Clean Water Restoration Act	P.L. 89-753
1970	Water Quality Improvement Act of 1970	P.L. 91-224, Part I
1972	Federal Water Pollution Control Act Amendments	P.L. 92-500
1977	Clean Water Act of 1977	P.L. 95-217
1981	Municipal Wastewater Treatment Construction Grants Amendments	P.L. 97-117
1987	Water Quality Act of 1987	P.L. 100-4

Congress passed the CWA in 1972 "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[97] In addition, the Act specifies multiple other goals, policies.[98] The following are significant: (1) eliminating water pollution; (2) attaining fishable waters; (3) prohibiting toxic pollutants in toxic amounts; (4) providing federal grants; (5) encouraging public participation; (6) performing research and development to attain zero discharge; and (7) controlling non-point sources.[99]

The Act envisions sources of pollution into bodies of navigable water being one of two types: point and non-point sources.[100] The federal government has jurisdiction to regulate point-source pollution under the Act,[101] whereas state governments are given jurisdiction to enforce any non-point sources they deem to pose a risk of pollution to navigable waters.[102] Point sources are defined in the Act as:

> [A]ny discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does *not include agricultural*

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[96] *Id.*
[97] 33 U.S.C. § 1251(a) (2012).
[98] *Id.*
[99] *Id.*
[100] Jan G. Laitos & Heidi Ruckriegle, *The Clean Water Act and the Challenge of Agricultural Pollution*, 37 VT. L. REV. 1033, 1035 (2013).
[101] *Id.* (noting that "the CWA mandates that point source pollution be regulated pursuant to federally-imposed, technology-based controls").
[102] 33 U.S.C. § 1329(b); *see also* Laitos & Ruckriegle, *supra* note 100, at 1034 ("For such nonpoint sources, the Act in effect removes these sources from federal oversight and instead delegates regulation and control of these sources to each state.").

> *stormwater discharges and return flows from irrigated agriculture.*[103]

The statute places agricultural runoff outside federal jurisdiction to enforce discharge regulation, and it makes state governments responsible for creating regulations for non-point-source agricultural runoff.[104] This severely limits the federal government's ability to fight against HABs because such a large amount of phosphorus comes from non-point-source pollution (see table below for Lake Erie as an example). Pursuant to a 1987 amendment to the CWA, state authorities may implement regulations designed to manage non-point-source pollution to achieve the goals of the CWA.[105] If a state has passed a non-point-source pollution regulation on agricultural runoff, however, then the CWA might provide a means by which private citizens may seek injunctive relief from property owners who pollute bodies of water with agricultural runoff.[106]

Sources of Phosphorus Entering Lake Erie 1998–2005[107]

External Phosphorus Source	Connecting Channel MTA	Western Basin MTA	Central/Eastern Basin MTA	Total Loads MTA	Percent of Total
Nonpoint	522	3,987	1,094	5,604	60.8%
Point	1,051	388	469	1,908	20.7%
Upper Lakes	1,080	0	0	1,080	11.7%
Atmospheric		80	548	628	6.8%
Total	2,653	4,455	2,111	9,220	100%
Percent of total	**29%**	**48%**	**23%**	**100%**	

B. *Private Rights of Action Under the Clean Water Act*

The CWA provides a private right of action for citizens to sue violators of effluent standards for either injunctive relief or civil penalties.[108] The CWA envisioned agricultural runoff and other non-point-source pollution to be managed by the states with federal assistance.[109] For non-point-source pollution, such as agricultural runoff, a would-be plaintiff would need a state law or regulation designed to regulate the use of fertilizers that runoff into navigable bodies of water. Once a state law has

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[103] 33 U.S.C. § 1362(14) (emphasis added).
[104] Laitos & Ruckriegle, *supra* note 100, at 1034.
[105] 33 U.S.C. § 1329(b).
[106] *Id.* § 1365(a).
[107] OHIO ENVTL. PROT. AGENCY, *supra* note 35, at 18 tbl.1.
[108] 33 U.S.C. § 1365(a).
[109] Hiebenthal v. Meduri Farms, 242 F. Supp. 2d 885, 888 (D. Or. 2002); *The Clean Water Act: Protecting and Restoring our Nation's Waters*, EPA, http://water.epa.gov/action/cleanwater40/cwa101.cfm (last visited Apr. 17, 2014).

been put in place and is violated, then a plaintiff might be able to bring suit against the violator under the CWA. Over the years, federal courts have developed a long line of case law interpreting the private right of action and who may sue, what kind of violations create an injury and what limitations there are on potential plaintiffs from suing.

1. *Courts Apply Relatively Liberal Standards for Whom and Under What Conditions a Party May Sue for an Injury Caused by a Non-point-source Polluter*

To prevail at trial, a plaintiff must prove an ongoing violation.[110] In order to show an ongoing violation, a plaintiff must show either (1) the violations "continue on or after the [time] the complaint is filed" in court against the violator, or (2) evidence would make a reasonable trier of fact find a likelihood that the violator will resume the conduct "in intermittent or sporadic violations" in the future.[111]

The private right of action belongs to private citizens in the statute.[112] However, this right of action also belongs to organizations, if their land has been adversely affected by polluting activities.[113] In *New Manchester Resort & Golf*, a corporate owner of undeveloped property filed suit against two owners of adjacent property, alleging that storm water discharges and the presence of fill material in the stream that passed through the resort's land violated the CWA and asserted various state law claims.[114] The district court found that corporate entities that owned property that was adversely affected by another landowner's polluting use of their property may bring a claim under the CWA.[115]

Organizations may sue under the CWA's private right of action in a representative capacity, as well.[116] An organization wishing to sue on behalf

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[110] Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Found., Inc., 484 U.S. 49, 50 (1987).

[111] Sierra Club v. Union Oil Co. of Cal., 853 F.2d 667, 671 (9th Cir.1988) (internal quotations omitted).

[112] 33 U.S.C. § 1365(a); *see also* Decker v. Nw. Envtl. Def. Ctr., 133 S. Ct. 1326, 1334 (2013).

[113] New Manchester Resort & Golf, LLC v. Douglasville Dev., LLC, 734 F. Supp. 2d 1326, 1332 (N.D. Ga. 2010) (finding corporate owner of property that was directly affected by defendants' discharges did not need to show that its individual shareholders had standing).

[114] *Id.* at 1330.

[115] *Id.* at 1331–32.

[116] Friends of the Earth, Inc. v. Gaston Copper Recycling Corp., 629 F.3d 387, 396–97 (4th Cir. 2011).

> An organization may have standing to sue based on an injury to the organization itself or as a representative of its harmed members. To have representational standing, as asserted by the plaintiffs in this case, an organization must show that one of its members would have standing to sue in his or her own right.

of one of its members must satisfy certain criteria. First, one of its members must have standing in their own right to sue.[117] Also, the interests must be germane to the organization's purpose.[118] Finally, neither the claim asserted nor the relief sought requires members of the organization to participate in the suit.[119] In *Gaston Copper Recycling Corp.*, Friends of the Earth—a non-profit environmental advocacy organization—filed suit under the CWA against the operator of a smelting facility, alleging violations of the operator's permit and seeking declaratory and injunctive relief.[120] The court found that an organization that wishes to sue on behalf of members must simply satisfy traditional standing requirements.

> To [satisfy] the . . . requirement[s] for standing, a plaintiff must prove that: 1) he or she suffered an "injury in fact" that is concrete and particularized, and is actual or imminent; 2) the injury is fairly traceable to the challenged action of the defendant; and 3) the injury likely will be redressed by a favorable decision.[121]

Thankfully for Great Lakes businesses that suffer impairment to their property, federal courts have liberally evaluated organizations' standing to bring suit against polluters. In *Idaho Conservation League v. Atlanta Gold Corp.*, environmental organizations sued a mining corporation, seeking an injunction, declaratory relief and civil penalties under the CWA for the corporation's discharge of water from a mine.[122] In satisfying the showing of an injury suffered, even an aesthetic alteration to the used property caused by the pollution can suffice.[123] Furthermore, impairment of navigable bodies of water for purposes of recreation also satisfies the injury requirement.[124] In *Idaho Conservation League*,

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Id. (citations omitted).

[117] *Id.* at 397.

[118] Idaho Conservation League v. Atlanta Gold Corp., 844 F. Supp. 2d 1116, 1128 (D. Idaho 2012).

[119] *Id.*

[120] *Friends of the Earth, Inc.*, 629 F.3d at 391–92.

[121] *Id.* at 396 (internal citation omitted) (finding plaintiff who meets the standing requirements of Article III of the Constitution also satisfies the CWA"s statutory threshold).

[122] 844 F. Supp. 2d at 1120–21.

> [A] plaintiff must show (1) it has suffered an 'injury in fact' that is (a) concrete and particularized and (b) actual or imminent, not conjectural or hypothetical; (2) the injury is fairly traceable to the challenged action of the defendant; and (3) it is likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision.

Id. at 1128.

[123] *Id.* ("Environmental citizen suit plaintiffs adequately allege injury in fact when they aver that they use an affected area, and that the aesthetic and recreational values of that area will be lessened by the challenged activity.").

[124] *Friends of the Earth, Inc.*, 629 F.3d at 397; *Idaho Conservation League*, 844 F. Supp. 2d at 1128–29; George v. Reisdorf Bros., 696 F. Supp. 2d 333, 337

organizations' members used a river for hiking, canoeing, fishing, swimming and camping, which were impaired by the polluting activities of the defendant corporation.[125]

Other courts have held that even a reasonable danger of harm posed by the discharge can satisfy the injury requirement for standing.[126] In *PennEnvironment v. RRI Energy Northeast Management Co.*, organizations' members expressed concern that pollution would impair their ability to use river for paddling, swimming, fishing and bird watching.[127] *George v. Reisdorf Bros., Inc.* is another example of a case in which impairment of recreational use of navigable bodies of water satisfies the injury requirement.[128] In that case, Plaintiffs' alleged inability to consume fish caught in a creek as a result of pollutants discharged by Defendant was sufficient to raise a triable issue of fact as to standing.[129]

The right of action may also be exercised by a plaintiff even if federal or state environmental agencies have refused or declined to bring charges.[130] Courts, however, give deference to government agencies bringing charges against violators compared to citizen plaintiffs bringing suit.[131] This is because citizen suits are meant to "supplement" government enforcement of environmental regulations and "not [to] supplant" such enforcement.[132] Courts will also not dismiss suits against defendants because government environmental agencies are not necessary parties to a citizen suit for violations of the CWA.[133] Also, the fact that the alleged conduct in question might involve another federal regulation that does not

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(W.D.N.Y. 2010); PennEnvironment v. RRI Energy Ne. Mgmt. Co., 744 F. Supp. 2d 466, 478–79 (W.D. Pa. 2010).

[125] *Idaho Conservation League*, 844 F. Supp. 2d at 1128–29.

[126] *See, e.g.*, Ohio Valley Envtl. Coal., Inc. v. Hobet Mining, LLC, 723 F. Supp. 2d 886, 903 (S.D. W. Va. 2010) (finding that plaintiffs satisfied the traceability requirement for standing where the discharge of the selenium at issue would *be reasonably expected* to cause some members of plaintiff group to curtail their use of the body of water, thus diminishing their enjoyment of the area, and where plaintiffs reasonably feared selenium discharges may result in harm to themselves and area wildlife).

[127] 774 F. Supp. 2d at 477–79.

[128] 696 F. Supp. 2d at 333.

[129] *Id.* at 337.

[130] Envtl. Conservation Org. v. City of Dallas, 529 F.3d 519, 526 (5th Cir. 2008) (finding that inaction by government environmental agencies does not preclude a citizen from bring suit).

[131] *See* Ass'n to Protect Hammersley v. Taylor Res., Inc., 299 F.3d 1007, 1012 (9th Cir. 2002).

[132] Riverkeeper, Inc. v. Mirant Lovett, LLC, 675 F. Supp. 2d 337, 343, 344 (S.D.N.Y. 2009) ("'Citizen suits play an important role in the Act's enforcement scheme,' and '[t]he citizen suit provisions were designed not only to 'motivate government agencies' to take action . . . but also to make citizens partners in the enforcement of the Act's provisions.'") (citing Weiler v. Chatham Forest Prods. Inc., 392 F.3d 532, 536 (2d Cir. 2004)).

[133] *See id.*

give plaintiffs a private right of action does not make government agencies necessary parties.[134]

2. *Limitations on the Private Right of Action Under the Clean Water Act Restrict Who Can Be Sued, When a Plaintiff May Sue and What They Can Receive in Relief*

The private right of action in the CWA serves as a means for citizens to serve the public when the government neglects its duty to prosecute violations of effluent standards (whether state or federal).[135] However, citizen suits are designed to supplement—not to supplant—federal regulation of pollution in the nation's water.[136] Therefore, courts have limited citizens suits that seek monetary damages from government actors based on sovereign immunity.[137] In addition, citizen suits cannot occur when a government actor has already brought charges against the violator for the same conduct.[138]

Citizen suits may not seek monetary compensation from government agencies for failing to prosecute a violator.[139] The private right of action does not circumvent a state actor's right to sovereign immunity under the Eleventh Amendment of the United States Constitution.[140] Given this limitation, any plaintiffs wishing to seek compensation from the government should instead seek damages against the original violator.

Plaintiffs must also provide the violator with adequate notice of their polluting conduct in order to bring formal charges.[141] A plaintiff must give the alleged violator, the EPA and the state sixty-days notice of their intent to sue after the violation took place.[142] Failing to provide such notice to all potential parties will result in dismissal.[143] Other than making the alleged violator aware of a possible lawsuit, this notice requirement acts to inform a potentially unaware environmental government agency of the violation.[144] The notice requirement reflects the policy preference that suits against violators be carried out by government agencies rather than being

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[134] Or. State Pub. Interest Research Grp., Inc. v. Pac. Coast Seafoods Co., 341 F. Supp. 2d 1170, 1179 (D. Or. 2004).
[135] *See* Sw. Marine, Inc. v. United States, 535 F.3d 1012, 1017 (9th Cir. 2008).
[136] Sierra Club v. ICG E., LLC, 833 F. Supp. 2d 571, 575 (N.D. W. Va. 2011).
[137] *See, e.g.*, Murtaugh v. New York, 810 F. Supp. 2d 446 (N.D.N.Y. 2011).
[138] 33 U.S.C. § 1365(b)(1)(B) (2012).
[139] *Murtaugh*, 810 F. Supp. 2d at 470 (finding the plaintiffs unable to seek civil penalties against the commissioner of state environmental agency for failure to bring charges against an alleged polluter).
[140] *Id.*
[141] 33 U.S.C. § 1365(b)(1)(A).
[142] *Id.*
[143] Vandermark v. City of New York, 615 F. Supp. 2d 196, 210 (S.D.N.Y. 2009).
[144] *Id.*

supplanted by citizen suits.[145] Also, in the interest of judicial economy, requiring sufficient notice gives the alleged violator time to correct their polluting activities, thus making a lawsuit unnecessary.[146]

If the federal or state environmental agencies have failed to bring charges against the alleged violator within sixty days of the plaintiff giving notice, then a citizen plaintiff may formally file a complaint against the alleged violator.[147] Once a government environmental agency has commenced action against the alleged violator for the originally claimed violation, then the private citizen is deprived of his right to bring suit against the violator for the same violation(s).[148]

There is a circuit split over what qualifies as "commencement of action." The Fourth Circuit merely requires that the government initiate an investigation to fulfill commencement of action, while the Fifth Circuit requires more formal steps to be taken.[149] Such formal steps would require that "commencement of action" be that the government has prosecuted the matter to the point where it can bring the violator into compliance with the CWA.[150] A would-be citizen plaintiff cannot challenge a governmental prosecution of an alleged violator easily. The decision to use different strategies in prosecuting violators, such as less-demanding fines or the specifics of a plea agreement are not sufficient to show that the government agency has failed to adequately prosecute the alleged violator.[151]

3. *Jurisdictional and Evidentiary Concerns Limit the Availability of the Private Right of Action to Would-be Plaintiffs*

The availability of the private right of action is potentially limited by jurisdictional requirements and evidentiary standards. Federal courts have subject matter jurisdiction to hear cases based on federal question

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[145] Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Found., Inc., 484 U.S. 49, 59–60 (1987) ("Citizen-plaintiffs must give notice to the alleged violator, the Administrator of EPA, and the State in which the alleged violation 'occurs.' . . . It follows logically that the purpose of notice to the alleged violator is to give it an opportunity to bring itself into complete compliance with the Act and thus likewise render unnecessary a citizen suit.").

[146] *Id.*

[147] 33 U.S.C. § 1365(b)(1)(B).

[148] *Id.*

[149] Piney Run Pres. Ass'n v. Carroll Cnty., Md., 523 F.3d 453, 460 (4th Cir. 2008); *see also* La. Envtl. Action Network v. Sun Drilling Prods. Corp., 716 F. Supp. 2d 476, 480–81 (E.D. La. 2010) (finding that sending warning letters was insufficient to be a formal step against alleged violator to bring them into compliance with CWA).

[150] *La. Envtl. Action Network*, 716 F. Supp. 2d at 480–81.

[151] *See* Karr v. Hefner, 475 F.3d 1192, 1197–98 (10th Cir. 2007).

jurisdiction,[152] diversity jurisdiction[153] and supplemental jurisdiction.[154] A plaintiff whose claims do not satisfy one of these three types of jurisdictions cannot have his claims heard in federal court. Since state non-point-source pollution standards are not federal statutes, it is questionable whether a plaintiff could bring his claims under federal question jurisdiction. A plaintiff might be able to bring his suit based on diversity jurisdiction and supplemental jurisdiction, but it would depend on the particulars of each plaintiff's case.

Possible evidentiary concerns also limit the use of the private right of action by plaintiffs. Currently, it is difficult to know exactly how much phosphorus makes its way into the Great Lakes from agricultural sources.[155] Therefore, it would be almost impossible with current technology to pinpoint how much a particular actor has contributed to intensifying HABs. This limitation would make it extremely difficult for plaintiffs to show cause and would likely result in dismissal.

C. *Lobbying by Great Lakes Businesses as a Means to Combat the Issue of HABs*

Lobbying is a non-exclusive alternative strategy for Great Lakes businesses to protect their interests in an environmentally healthy Great Lakes. Businesses adversely affected by polluting activities can utilize lobbying to motivate elected representatives to pass favorable laws and regulations to curb such activities. Lobbying offers a longer-term strategy to deal with the HABs crisis in the Great Lakes and avoids many of the problems associated with litigating under the CWA's private right of action.

1. *What is Lobbying?*

The use of lobbying is seen as an integral part of the American system of democratic government.[156] Lobbying is protected under the First

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[152] 28 U.S.C. § 1331 ("The district courts shall have original jurisdiction of all civil actions arising under the Constitution, laws, or treaties of the United States.").
[153] *Id.* § 1332 ("The district courts shall have original jurisdiction of all civil actions where the matter in controversy exceeds the sum or value of $75,000, exclusive of interest and costs, and is between-- (1) citizens of different States.").
[154] *Id.* § 1367(a) ("Except as provided in subsections (b) and (c) or as expressly provided otherwise by Federal statute, in any civil action of which the district courts have original jurisdiction, the district courts shall have supplemental jurisdiction over all other claims that are so related to claims in the action within such original jurisdiction that they form part of the same case or controversy.").
[155] OHIO ENVTL. PROT. AGENCY, *supra* note 35, at 43.
[156] Lloyd Hitoshi Mayer, *What Is This "Lobbying" That We Are So Worried About?*, 26 YALE L. & POL'Y REV. 485, 486 (2008) ("Lobbying has a prominent and positive place in our laws and our history. It is protected by the First Amendment right to petition the government for redress and by similar provisions in numerous state constitutions.").

Amendment as an exercise of free speech in order to petition the government to act.[157] Furthermore, lobbying provides policymakers with relevant information on issues that warrant government action.[158] Informing the public about issues of regional or national concern is another benefit that lobbying creates in the American democratic system of governance.[159]

Multiple definitions of what legally constitutes lobbying exist. The definition most relevant for the purposes of Great Lakes businesses is found in the Lobbying Disclosure Act of 1995 (LDA).[160] The LDA covers communications between registered lobbyists seeking to influence a government official.[161] Furthermore, the LDA regulates communications to two types of government officials, "'covered executive branch officials' and 'covered legislative branch officials.'"[162] Communications with government officials who fall into one of these two categories are covered by the LDA if the communications involve legislation, regulation, executive branch action, a federal program or policy or the nomination or confirmation of a person for a position subject to confirmation by the Senate.[163] Covered legislative officials include any member, officer or employee of the United States Congress.[164] "Covered executive branch officials include the President, Vice President, . . . [and] any officer or employee in Executive Schedule levels I through V."[165]

2. *Lobbying Has Been an Effective Tool Used by Environmentalist Groups to Promote Ecological Responsibility and Can Be Just as Effective if Used by Great Lakes Businesses Affected by HABs*

The current environmental protection regime would not likely have been possible without lobbying by environmentalist organizations. The rise of the environmentalist movement in America coincided with many federal government programs designed to protect the environment.[166] The United States slowly centralized environmental regulation authority from state and

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[157] *Id.*
[158] *Id.* ("Lobbyists and the groups they represent often bring useful information to policymakers and facilitate public participation in, and knowledge about, government decision making.").
[159] *Id.*
[160] Lobbying Disclosure Act of 1995, Pub. L. No. 104-65, §§ 3(7), (8), 109 Stat. 691, 692 (1995).
[161] *Id.* § 3(8).
[162] *Id.*
[163] *Id.*
[164] *Id.* § 3(4).
[165] Mayer, *supra* note 156, at 511–12.
[166] *See generally Seventies 1970-79*, ENVTL. HIST. TIMELINE, http://66.147.244.135/~enviror4/20th-century/seventies-1970-79/ (last visited Apr. 10, 2014).

local governments to the federal government.[167] In 1970, President Richard Nixon proposed the creation of the EPA in order to create and enforce uniform environmental standards throughout the United States.[168] The EPA was the combination of fifteen key federal programs, "including the . . . National Air Pollution Control Administration (NAPCA) and the . . . Water Quality Administration (FWQA)."[169]

The year 1972 saw some of the greatest legislative successes the environmental movement has ever achieved. Congress passed four landmark acts that greatly increased the federal government's role in environmental protection. First, Congress passed the CWA to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[170] Congress's desire to pass the CWA was so strong that it passed the law over Nixon's veto.[171] Also, Congress passed the Coastal Zone Management Act (CZMA).[172] The CZMA sets out a management framework for the nation's coastal resources and balances economic and environmental concerns.[173] Furthermore, the Marine Mammal Protection Act (MMPA) was passed by Congress to prohibit the taking (i.e., hunting, killing, capture and/or harassment) of marine mammals and imposes a moratorium on the import, export and sale of marine mammal products.[174] Lastly, Congress passed the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) in 1972, authorizing the EPA to regulate the use and sale of pesticides to protect human health and preserve the environment.[175] Specifically, FIFRA gave the EPA the ability to "(1) strengthen the registration process by shifting the burden of proof to the chemical manufacturer, (2) enforce compliance against banned and unregistered products[] and (3) promulgate the regulatory framework."[176]

What this history shows is that legislators clearly respond to agitation for environmental protection and that lobbying is a powerful tool to this end. Great Lakes businesses adversely affected by HABs could find it advantageous to join with environmentalist groups to lobby elected representatives to tighten fertilizer runoff standards. Lobbying as a strategy

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[167] Henry N. Butler & Jonathan R. Macey, *Externalities and the Matching Principle: The Case for Reallocating Environmental Regulatory Authority*, 14 YALE L. & POL'Y REV. 23, 24 (1996).
[168] *Seventies 1970-79*, *supra* note 166.
[169] *Id.*
[170] 33 U.S.C. § 1251(a) (2012) (quoted in Laitos & Ruckriegle, *supra* note 100, at 1033).
[171] *See Seventies 1970-79*, *supra* note 166.
[172] *Id.*
[173] *See generally* 16 U.S.C. §§ 1451–64.
[174] *Id.* §§ 1361, 1371.
[175] *Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)*, EPA, http://www.epa.gov/agriculture/lfra.html (last updated June 27, 2012). *See generally* 7 U.S.C. § 136.
[176] *Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)*, *supra* note 175.

would allow business leaders and environmental organizations to pool resources to bring additional pressure on representatives, thus increasing the likelihood of desired changes in environmental law and regulation.

While businesses and environmentalist groups are traditionally seen at odds with one another,[177] this is not always the case. Some businesses find it advantageous to join forces with environmentalist advocacy organizations because it suits their commercial interests.[178] This alignment of interests can happen when regulations limit a company's competition, subsidize a company's delivery of goods and/or services or put burdens on a company's competitors, but not on them (i.e. a nuclear energy company would find it advantageous if competing coal companies are burdened with additional regulations, but those regulations only relate to coal companies and not nuclear).[179] Therefore, Great Lakes businesses in industries such as fishing and tourism should be willing partners with environmental groups in pursuing tighter controls on fertilizer runoff that cause HABs. However, lobbying is a tool that can be used by groups opposed to tighter restrictions as well.

3. *Agribusinesses Pose a Large and Powerful Counterweight to Any Attempts by Great Lakes Businesses to Lobby for Tighter Restrictions on Fertilizer Runoff*

The term agribusiness does not have a single definition; some definitions of agribusiness act "as a catch-all term for the entire agricultural sector of the economy."[180] For the purposes of this paper, the term agribusiness means "agricultural production carried out at a large scale."[181] Furthermore, agricultural production includes not just the raising of crops and livestock, but also the processing of raw materials into final goods.

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[177] *See, e.g.*, *Environment*, GALLUP, http://www.gallup.com/poll/1615/environment.aspx (last updated Apr. 10, 2014, 4:15 PM) (providing empirical evidence showing dissatisfaction with environmental regulation).

[178] Bruce Yandle, *Bootleggers and Baptists–the Education of a Regulatory Economist*, AEI J. ON GOV'T & SOC'Y 12, 14 (1983) (describing this synthesis of interests between commercial and regulatory actors as "Regulation is relief for some and a burden for others, so that reform is a burden for some and a relief for others.").

[179] *See id.* at 13–14.

[180] TRAVIS MADSEN ET AL., ENV'T AM. RESEARCH & POLICY CTR., GROWING INFLUENCE: THE POLITICAL POWER OF AGRIBUSINESS AND THE FOULING OF AMERICA'S WATERWAYS 36 n.1 (2011).

[181] *Id.* ("There are many potential definitions of 'agribusiness.' The term is sometimes used as a generic description for business-oriented farms, or as a catch-all term for the entire agriculture sector of the economy, including businesses that manufacture or supply products used on farms.").

Finally, "large-scale is inherently a subjective term," but in this paper it refers to industrial-sized agricultural operations.[182]

Agribusinesses are one of the most powerful groups in American politics.[183] Between 2000 and 2010, ten agribusiness companies and groups spent a total of $35 million on campaign contributions to Congressional campaigns.[184] Additionally, agribusinesses contributed $120 million to state-level political campaigns for office.[185] These contributions allow agribusiness to greatly influence elected representatives and how they vote.

By far the largest group lobbying on behalf of agribusinesses is the American Farm Bureau Federation,[186] which spent roughly forty-five percent of the total political contributions over ten years.[187] Many other large agribusinesses spent large sums of money. American Crystal Sugar is the second largest contributor with roughly twenty-one percent of the total.[188] American Crystal Sugar is the largest sugar beet processor and operates large sugar processing facilities in the Midwest that have been accused of violating the CWA.[189] Dean Foods—America's largest dairy producer—is the third-largest contributor to Congressional candidates, with seven percent of the total.[190]

Political campaign contributions are not the only way agribusinesses influence the legislative process. Agribusiness as a whole spends large amounts of money on lobbying efforts to communicate their views on legislation to elected representatives and regulatory officials.[191] The objective of this large-scale lobbying by agribusiness is done not just to communicate their views, but also to increase the chances that elected representatives and regulatory officials implement policies favorable to the industry. According to lobbying disclosure forms, water pollution is one of

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[182] *Id.*
[183] *Id.* at 4.
[184] *Id.* at 5 ("To amass power, big agribusiness has long made campaign contributions to lawmakers who play key roles in the regulation of agricultural practices.").
[185] *Id.*
[186] *Id.*

> The American Farm Bureau Federation, along with state and county Farm Bureaus, are among the most powerful lobbying organizations in America. The Farm Bureau touts itself as the 'voice of agriculture.' But the organization's sources of funding and agenda have led many – including some farmers – to suggest that the Farm Bureau puts the needs of corporate agribusiness above the needs of the small farmers.

Id. at 20.
[187] *See id.* at 5.
[188] *Id.*
[189] *Id.* at 16.
[190] *Id.* at 5.
[191] *Id.* at 18.

the highest priority issues for agribusinesses.[192] For example, the American Farm Bureau employed more lobbyists on water issues in 2010 than on any other issue.[193] The agenda of these water issue lobbyists ranged from the scope of the CWA, regulation of pesticides and regulations covering pollution originating from factory farms.[194]

The amount of resources that agribusinesses commit to lobbying is staggering compared to the relatively modest lobbying expenditures of environmental groups. Between 2005 and 2010, ten agribusinesses spent $126.9 million on lobbying the United States Congress and related regulatory agencies.[195] Also, agribusinesses fielded 159 lobbyists in 2010—roughly one lobbyist for every four members of Congress.[196]

A quick glance at the lobbying expenditures between agribusiness and environmental causes shows how stark the gap is in resources. In 1998, agribusinesses spent $120 million on lobbying while environmental groups spent roughly $5 million, or approximate four percent.[197] In 2005, agribusinesses spent just over $100 million on lobbying compared to environmental groups' nearly $5 million, or twenty times the amount.[198] Even in 2009, when environmental groups spent the most on lobbying, it was only a fraction of what agribusinesses spent that year (roughly eighteen percent).[199] What these numbers show is that agribusinesses repeatedly out-spend environmental groups by many more times. With so much spending on lobbying, the question becomes what exactly is the payoff for agribusinesses.[200]

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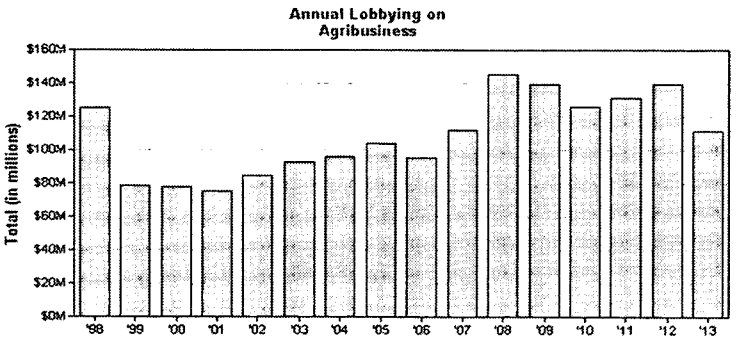
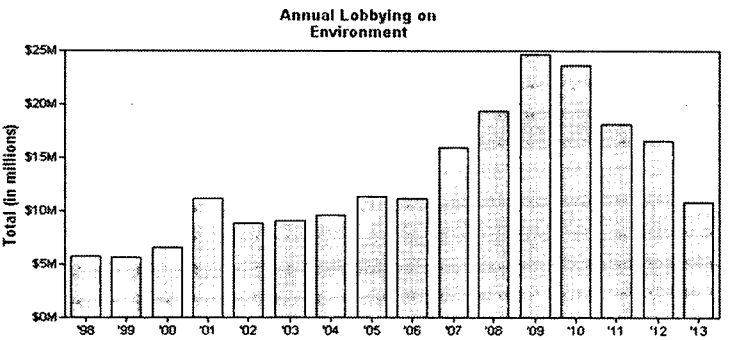
[192] *Id.*
[193] *Id.*
[194] *Id.*
[195] *Id.*
[196] *Id.*
[197] Ctr. for Responsive Politics, *Agribusiness: Lobbying, 2008*, OPENSECRETS.ORG, http://www.opensecrets.org/industries/lobbying.php?cycle=2008&ind=A [hereinafter *Agribusiness*] (last visited Apr. 11, 2014); Ctr. for Responsive Politics, *Environment: Lobbying, 2013*, OPENSECRETS.ORG, http://www.opensecrets.org/industries/lobbying.php?cycle=2014&ind=Q11 [hereinafter *Environment*] (last visited Apr. 11, 2014).
[198] *Agribusiness*, *supra* note 197; *Environment*, *supra* note 197.
[199] Agribusiness, supra note 197.
[200] *Id.*

Annual Lobbying on Agribusiness[201]



Annual Lobbying on Environment[202]



A question these statistics raise is what effect, if any, does spending more on lobbying have for agribusinesses? In a study examining the rate of return for companies lobbying for a tax exemption to repatriated profits abroad, the ratio between expenditures on lobbying and economic benefit to the companies involved was 1:220.[203] This means that for every dollar expended on lobbying activities, a company in the study received on

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[201] *Environment*, *supra* note 197.

[202] *Agribusiness*, *supra* note 197.

[203] Raquel Alexander et al., *Measuring Rates of Return on Lobbying Expenditures: An Empirical Case Study of Tax Breaks for Multinational Corporations*, 25 J.L. & POL. 401, 444 (2009).

> The 220:1 ratio, combined with our analysis showing that most of the tax benefits were concentrated among a fairly small group of corporations and an even smaller number of industries, may lead observers to declare that our study has finally confirmed what commentators, lawmakers, and other researchers have perceived so for many years: that narrow, well-financed interest groups, through their lobbying activities, have a powerful influence on legislative outcomes.

Id.

average $220 in return.[204] While the study's results are specific to lobbying for tax benefits,[205] the study shows that companies are willing to spend large sums of money on lobbying because of a possibly large economic benefit to be gained.

Agribusinesses also likely benefit from lobbying more than many other forms of businesses. According to Raquel Alexander, corporations benefit most from lobbying when there is a limited number of actors with shared interests and concentrated benefits.[206] Indeed, it is not even necessary that each lobbying corporation be engaged in the specific industry to benefit greatly from lobbying. What seems necessary is that all the businesses be unified by a shared objective.[207] What this means in the context of agribusiness lobbying is that a large corn producer and a large soybean producer will spend large sums of money on relatively few pieces of legislation and that they should expect a bigger return on their investment compared to a small family farm.

Lobbying offers Great Lakes businesses an avenue other than litigation to protect their commercial interests in an ecologically healthy Great Lakes. Litigation suffers from being expensive, uncertain and potentially ineffective at reining in all polluters of the Great Lakes. Lobbying offers a less expensive and more comprehensive way of reducing pollution into the Great Lakes. With the successful passage of a bill in Congress, fertilizer standards can be set, clean-up programs can be made and all potential polluters would be under the standard.

However, lobbying is not an easy route to take for Great Lakes businesses. Agribusiness is a large and powerful opponent of ratcheting up any environmental regulation of the fertilizer runoff. Great Lakes businesses will have to throw their resources and lobbying efforts in with environmental groups if lobbying is to be a viable strategy. If successful, however, lobbying offers the most comprehensive and long-term strategy Great Lakes businesses can use to ensure the ecological health of one of this country's greatest natural resources.

D. *Litigation or Lobbying as a Solution for Great Lakes Businesses in Response to HABs*

Litigation and lobbying each have their own strengths and weaknesses as strategies for regional businesses to promote their interest in

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[204] *Id.*
[205] *See id.*
[206] *Id.* at 446 ("The group of corporations lobbying for the deduction for repatriated earnings in section 965 possessed the two characteristics identified by Olson as determinants of interest group formation: a limited number of actors with shared interests and concentrated benefits.").
[207] *See id.*

an ecologically healthy Great Lakes. Litigation is a good strategy if only a few violators are causing the damage to a business's property by discharging runoff. Furthermore, a suit may be able to bring the polluter into a favorable settlement agreement within a reasonable amount of time. However, litigation is expensive and is uncertain to produce a favorable result to the injured business. Furthermore, procedural and evidentiary issues might limit the availability of the private right of action under the CWA.

Lobbying is likely to be less expensive than litigation and it could produce a new regulation that would bind all actively and potential polluters from discharging fertilizer runoff. Counterlobbying by agribusinesses poses a large challenge to Great Lakes businesses, however, given the sheer scale of their lobbying resources. The scale of lobbying expenditures is likely to result in an economic boon for the small number of wealthy agribusiness corporations that benefit from the current set of laws governing fertilizer runoff.

The best strategy for adversely affected Great Lakes businesses is to use lobbying first and foremost, since it offers an inexpensive and more comprehensive solution relative to litigation. However, the most effective strategy might be for some businesses to utilize both litigation and lobbying. Whether a business's interests are better served by focusing exclusively on litigation or lobbying, or some mixture of both, will depend on a number of factors. In the long run, lobbying offers the best hope of bringing about comprehensive reform of how agricultural runoff is managed to reduce the threat posed by HABs to Great Lakes businesses.

IV. CONCLUSION

The Great Lakes are perhaps this country's greatest natural resource. They are the largest source of fresh water in the world and they facilitate one of the largest economic regions. Many states rely on the Great Lakes for their economic health. Industries such as fishing, water, manufacturing, energy and tourism all rely to differing degrees on an ecologically healthy Great Lakes. The presence of HABs has been shown in case studies to damage various industries and cost society in the tens of millions of dollars annually. The growth in HABs is mostly due to the discharge of fertilizer runoff containing phosphorus. In order to stem the growth of HABs, discharges of fertilizer runoff containing phosphorus must be sharply reduced.

One solution available to Great Lakes businesses adversely affected by HABs is to sue polluters under the CWA. The CWA provides for a private right of action to sue a polluter who violates a federal or state discharge standard. Since agricultural runoff is listed as non-point-source pollution, it is up to state-level representatives to implement fertilizer runoff standards to achieve the goals of the CWA. Once a standard has been

passed, Great Lakes businesses may sue if these limits are exceeded by a user of fertilizer containing phosphorus.

Lobbying is another avenue available to Great Lakes businesses that are adversely affected by HABs. Lobbying is the process by which organizations petition elected representatives and regulatory officials to consider their views on how an issue should be dealt with. Environmental organizations have used lobbying in the past to successfully persuade elected representatives to enact various environmental reforms and regulations. There is no reason why Great Lakes businesses cannot also use the lobbying process to persuade elected officials to implement reforms and regulations that will reduce HABs.

This Note leaves open many questions that future researchers will have to investigate before the true effectiveness of these two strategies can be fully understood. First, this Note did not examine the kind of issues arising under civil procedure and evidence law as to how a plaintiff might sue a polluter under the CWA's private right of action. There is a possibility that a plaintiff might not be able to bring suit in federal court without diversity jurisdiction applying. Furthermore, evidentiary issues arise as to how a plaintiff could prove that a particular agricultural polluter caused the damage to the plaintiff's property. As to lobbying, more research will have to be done into how much resources would be required to effectively change legislative outcomes.